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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,917	10/29/2003	Wallace T. Van Winkle	H0005096	8221

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EXAMINER	
LIEU, JULIE BICHNGOC	
ART UNIT	**PAPER NUMBER**
2636	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/696,917	VAN WINKLE ET AL.	
	Examiner	Art Unit	
	Julie Lieu	2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to Applicant's amendment filed December 29, 2005. Claims 1, 12, and 17 have been amended. Claim 18 has been canceled.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. The indicated allowability of claim 18 is withdrawn in view of the newly discovered reference(s) to Okazaki. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

4. Claims 1-5, 7, 8, 12-15, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaprelian (US Patent No. 4,857,895) in view of Okazaki (US Patent No. 5,610,592) and Kadwell et al. (US Patent No. 6,326,897)

Claim 1:

Kaprelian discloses a method for reducing false detects, comprising:

a. emitting an infrared light beam from a primary emitter 24 to a primary monitor detector 26;

b. detecting a portion of the first infrared light beam (fig. 4)

c. measuring a first voltage value using a primary receive detector 26;

d. emitting a second infrared light beam from the second emitter 44;

f. detecting a portion of the second infrared light beam with a secondary receive detector 28

g. measuring the second voltage value.

Kaprelian fails to disclose moving at least of or air and smoke through an inlet into a chamber by the use of a fan. Nonetheless, such concept is old in the art as taught in Okazaki. See front page figure. In light of this teaching, one skilled in the art would have readily recognized using a fan for moving the air and smoke from the inlet to the chamber because the detection of smoke in the supervised area can easily be detected faster with the use a fan.

Kaprelian also fails to disclose setting primary and secondary alarm flag alarm. However, it would have been obvious to one skilled in the art, as technology advances, to use controller and a computer program to provide an alarm status as taught in Kadwell. One skilled in the art would have readily setting an alarm flag when smoke is detected from each detection provided by the detectors and provide an alarm when both detectors detect the alarm condition, that is, when the detection is confirmed by redundant detection.

Claims 2 and 4:

The system in Kaprelian and Kadwell's determines a calibration level for the primary and secondary channels represent a scatter count of the air.

Claims 3 and 5:

The percent of smoke value of the air only present a choice in design. A skilled artisan would have readily known which percent value would be proper for the indication that an alarm situation exists.

Claims 7 and 8:

One skilled in the art would have readily recognized that, in the combined system of Kaprelian and Kadwell, the alarm situation should not be indicated if the redundant detector does not detect smoke and would disable the alarm flag.

Claim 11:

Kaprelian fails to disclose that first threshold value and the second threshold value is equal. Nonetheless, it would have been obvious to one skilled in the art that these values should be equal since they are detecting the same amount of smoke.

Claim 12:

Kaprelian discloses a method for using a smoke detection system comprising:

a. transmitting light from a first emitter 44 to a first monitor detector;

b. receiving a first portion of the light using a first receive detector 26;

c. determining a primary voltage by measuring the portion of the light received from the first receive detector 28 and if the primary voltage is greater than a primary threshold value;

d. receiving a second portion of the light using a second receive detector 28, the second portion of the light having been scattered by the smoke;

e. determining a secondary voltage by measuring the second portion of the light received from the first receive detector 28 and if the primary voltage is greater than a primary threshold value.

Kaprelian fails to disclose moving at least of or air and smoke through an inlet into a chamber by the use of a fan. Nonetheless, such concept is old in the art as taught in Okazaki.

See front page figure. In light of this teaching, one skilled in the art would have readily recognized using a fan for moving the air and smoke from the inlet to the chamber because the detection of smoke in the supervised area can easily be detected faster with the use a fan.

Kaprelian fails to disclose setting primary and secondary alarm flag alarm. However, it would have been obvious to one skilled in the art, as technology advances, to use controller and a computer program to provide an alarm status as taught in Kadwell. One skilled in the art would have readily setting an alarm flag when smoke is detected from each detection provided by the detectors and provide an alarm when both detectors detect the alarm condition, that is, when the detection is confirmed by redundant detection.

Claim 13:

In the Kaprelian system, light is transmitted from a second emitter 24 to a second monitor detector.

Claims 14-15:

The percent of smoke value of the air only present a choice in design. A skilled artisan would have readily known which percent value would be proper for the indication that an alarm situation exists.

5. Claims 9-10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaprelian (US Patent No. 4,857,895) in view of Okazaki (US Patent No. 5,610,592) and Kadwell et al. (US Patent No. 6,326,897) and further in view of Solomon (US Patent No. 4,401,478).

Claims 9 and 16:

Neither Kaprelian, Kadwell, nor Solomon discloses a supervisory circuit. However, Solomon teaches a supervisory circuit used for providing a maintenance fault signal. It would have been obvious to one skilled in the art to apply this concept in the combined system of Kaprelian and Kadwell system because it is conventional and desirable.

Claim 10:

It is inherent that since one channel in the modified system of Kaprelian and Kadwell fails, the other one functions as a primary detector channel.

6. Claims 17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable by Kaprelian (US Patent No. 4,857,895) in view of Okazaki (US Patent No. 5,610,592).

Claim 17:

Kaprelian discloses a smoke detection system comprising:

a. a central processing (fig. 4); and

b. a smoke detector unit 80 for receiving control signals from the central processing, the smoke detection unit including:

i. a chamber (fig. 2) having an inlet for allowing air and smoke to enter the chamber;

ii. a first emitter 24, positioned in the chamber, for emitting light along a path (dotted line)

iii. a first monitor detector 26, positioned along the path of the emitted light, for receiving the emitted light from the first emitter; and

iv. a first receive detector 28, positioned off the path of the emitted light, for receiving a portion of the emitted light when smoke passes between the first emitter and the first monitor detector causing the emitted light to scatter and for transmitting a first smoke alarm signal to the central processing unit.

Kaprelian fails to disclose the use of a fan for moving the air and smoke from the inlet to the chamber. Nonetheless, such concept is old in the art as taught in Okazaki. See front page figure. In light of this teaching, one skilled in the art would have readily recognized using a fan for moving the air and smoke from the inlet to the chamber because the detection of smoke in the supervised area can easily be detected faster with the use a fan.

Claim 19:

The smoke detector unit in Kaprelian further includes a second emitter 44. Kaprelian fails to disclose a second monitor detector, and a second receive detector. Nonetheless, the multiplication of parts to cause redundancy in detection and to enhance the detection accuracy of a system does not present an inventive step because this concept is well known to one of ordinary skill in the art as taught in Solomon and would have readily incorporating this concept into the Kadwell smoke detection system as desired because it would reduce false alarm

Claim 20:

The central processing unit in Kaprelian transmits an alarm signal after receiving the true smoke alarm signal. Kaprelian fails to specifically state this smoke detection system is to be used in an aircraft and the warning signal is transmitted to the cockpit. However, the claimed feature only present the intended use of the device and would not be considered inventive because the function of the device would not thereby be modified.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie Lieu whose telephone number is 571-272-2978. The examiner can normally be reached on MaxiFlex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Julie Lieu
Primary Examiner
Art Unit 2636

Mar 02, 06